1. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{-5}{4} - \frac{9}{8}x \le \frac{-5}{6}x + \frac{7}{9}$$

  A. $(-\infty, a]$, where $a \in [3, 7.5]$

  B. $[a, \infty)$, where $a \in [3.75, 10.5]$

  C. $(-\infty, a]$, where $a \in [-8.25, -6.75]$

  D. $[a, \infty)$, where $a \in [-11.25, -4.5]$

  E. None of the above.

2. Using an interval or intervals, describe all the x-values within or including a distance of the given values.

Less than 5 units from the number -6.

  A. $(-\infty, -11] \cup [-1, \infty)$

  B. $(-\infty, -11) \cup (-1, \infty)$

  C. $(-11, -1)$

  D. $[-11, -1]$

  E. None of the above

3. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$3 + 7x > 10x \text{ or } 8 + 9x < 11x$$

  A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-2.25, 3]$ and $b \in [3, 5.25]$

  B. $(-\infty, a] \cup [b, \infty)$, where $a \in [0.75, 5.25]$ and $b \in [3.75, 9]$

  C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-7.5, -3]$ and $b \in [-3, 1.5]$

  D. $(-\infty, a) \cup (b, \infty)$, where $a \in [-5.25, 0.75]$ and $b \in [-6, 0.75]$

   E. $(-\infty, \infty)$

4. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-5 - 8x \leq \frac{-61x - 9}{8} < -3 - 9x$$

   A. $(-\infty, a] \cup (b, \infty)$, where $a \in [6.75, 13.5]$ and $b \in [-0.75, 5.25]$

   B. $[a, b)$, where $a \in [5.25, 12.75]$ and $b \in [0.3, 2.02]$

   C. $(a, b]$, where $a \in [9.75, 11.25]$ and $b \in [0, 6.75]$

   D. $(-\infty, a) \cup [b, \infty)$, where $a \in [9, 13.5]$ and $b \in [-0.38, 3.38]$

   E. None of the above.

5. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$6x + 9 \geq 10x - 8$$

   A. $(-\infty, a]$, where $a \in [3.25, 10.25]$

   B. $(-\infty, a]$, where $a \in [-5.25, 0.75]$

   C. $[a, \infty)$, where $a \in [4.25, 9.25]$

   D. $[a, \infty)$, where $a \in [-10.25, 1.75]$

   E. None of the above.

6. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-9 + 4x > 5x \text{ or } 6 + 3x < 4x$$

   A. $(-\infty, a) \cup (b, \infty)$, where $a \in [-9.6, -7.88]$ and $b \in [2.92, 7.95]$

   B. $(-\infty, a) \cup (b, \infty)$, where $a \in [-7.65, -5.7]$ and $b \in [6.75, 10.12]$

C. $(-\infty, a] \cup [b, \infty)$, where $a \in [-7.5, -0.75]$ and $b \in [6.75, 11.25]$

D. $(-\infty, a] \cup [b, \infty)$, where $a \in [-11.25, -8.25]$ and $b \in [1.5, 6.75]$

E. $(-\infty, \infty)$

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7. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-5 - 4x \le \frac{-33x - 4}{9} < 9 - 6x$$

A. $[a, b)$, where $a \in [9.75, 19.5]$ and $b \in [-7.5, -1.5]$

B. $(a, b]$, where $a \in [10.5, 18]$ and $b \in [-5.25, 3]$

C. $(-\infty, a] \cup (b, \infty)$, where $a \in [8.25, 14.25]$ and $b \in [-6, -1.5]$

D. $(-\infty, a) \cup [b, \infty)$, where $a \in [10.5, 18.75]$ and $b \in [-6.75, 1.5]$

E. None of the above.

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8. Using an interval or intervals, describe all the x-values within or including a distance of the given values.

More than 7 units from the number 3.

A. $(4, 10)$

B. $[4, 10]$

C. $(-\infty, 4] \cup [10, \infty)$

D. $(-\infty, 4) \cup (10, \infty)$

E. None of the above

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9. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$\frac{9}{2} - \frac{7}{4}x \le \frac{7}{6}x - \frac{10}{3}$$

A. $(-\infty, a]$, where $a \in [-3.75, -2.25]$

B. $[a, \infty)$, where $a \in [1.5, 3.75]$

C. $(-\infty, a]$, where $a \in [0, 5.25]$

D. $[a, \infty)$, where $a \in [-7.5, 0.75]$

E. None of the above.

10. Solve the linear inequality below. Then, choose the constant and interval combination that describes the solution set.

$$-10x + 8 < -8x + 7$$

A. (a, ∞), where $a \in [-2.1, -0.2]$

B. $(-\infty, a)$, where $a \in [-2.98, -0.08]$

C. $(-\infty, a)$, where $a \in [0.18, 1.43]$

D. (a, ∞), where $a \in [0.4, 4]$

E. None of the above.